

State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER D-161-5
Relating to Exemptions under Section 27156
of the Vehicle Code

GALE BANKS ENGINEERING
EXHAUST CROSSOVER PIPES, PARTS NO.
52702-STD AND NO. 52702-HO FOR 1982-1987
V8 POWERED CHEVROLET CAMAROS AND PONTIAC FIREBIRDS

Pursuant to the authority vested in the Air Resources Board by Section 27156 of the Vehicle Code; and

Pursuant to the authority vested in the undersigned by Sections 39515 and 39516 of the Health and Safety Code and Executive Order G-45-5;

IT IS ORDERED AND RESOLVED: That the installation of the Gale Banks Engineering exhaust crossover pipes parts No. 52702-STD and No. 52702-HO have been found not to reduce the effectiveness of required motor vehicle pollution control devices and, therefore, are exempt from the prohibitions of Section 27156 of the Vehicle Code for 1982 through 1987 model-year V8 powered Chevrolet Camaros and Pontiac Firebirds.

This Executive Order is valid provided that installation instructions for this device will not recommend tuning the vehicle to specifications different from those submitted by the device manufacturer.

Changes made to the design or operating conditions of the device, as exempted by the Air Resources Board, that adversely affect the performance of a vehicle's pollution control system shall invalidate this Executive Order.

Marketing of this device using an identification other than that shown in this Executive Order or marketing of this device for an application other than those listed in this Executive Order shall be prohibited unless prior approval is obtained from the Air Resources Board. Exemption of a kit shall not be construed as an exemption to sell, offer for sale, or advertise any component of a kit as an individual device.

This Executive Order does not constitute any opinion as to the effect that the use of this device may have on any warranty either expressed or implied by the vehicle manufacturer.

THIS EXECUTIVE ORDER DOES NOT CONSTITUTE A CERTIFICATION, ACCREDITATION, APPROVAL, OR ANY OTHER TYPE OF ENDORSEMENT BY THE AIR RESOURCES BOARD OF ANY CLAIMS OF THE APPLICANT CONCERNING ANTI-POLLUTION BENEFITS OR ANY ALLEGED BENEFITS OF THE GALE BANKS ENGINEERING EXHAUST CROSSOVER PIPES.

No claim of any kind, such as "Approved by Air Resources Board" may be made with respect to the action taken herein in any advertising or other oral or written communication.

Section 17500 of the Business and Professions Code makes untrue or misleading advertising unlawful, and Section 17534 makes violation punishable as a misdemeanor.

Section 43644 of the Health and Safety Code provides as follows:

"43644. (a) No person shall install, sell, offer for sale, or advertise, or, except in an application to the state board for certification of a device, represent, any device as a motor vehicle pollution control device for use on any used motor vehicle unless that device has been certified by the state board. No person shall sell, offer for sale, advertise, or represent any motor vehicle pollution control device as a certified device which, in fact, is not a certified device. Any violation of this subdivision is a misdemeanor."

Any apparent violation of the conditions of this Executive Order will be submitted to the Attorney General of California for such action as he deems advisable.

Executed at El Monte, California, this 7th day of May, 1987.


K. D. Drachand, Chief
Mobile Source Division

State of California
AIR RESOURCES BOARD

EVALUATION OF GALE BANKS ENGINEERING'S EXHAUST
CROSSOVER PIPES PARTS NO. 52702-STD AND NO. 52702-HO
FOR 1982-1987 V8 POWERED CHEVROLET CAMAROS AND PONTIAC FIREBIRDS

May, 1987

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EVALUATION OF GALE BANKS ENGINEERING'S EXHAUST
CROSSOVER PIPES PARTS NO. 52702-STD AND NO. 52702-HO
FOR 1982-1987 V8 POWERED CHEVROLET CAMAROS AND PONTIAC FIREBIRDS

by

Mobile Source Division

State of California
AIR RESOURCES BOARD
9528 Telstar Avenue
El Monte, CA 91731

(This report has been reviewed by the staff of the California Air Resources Board and approved for publication. Approval does not signify that the contents necessarily reflect the views and policies of the Air Resources Board, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.)

SUMMARY

Gale Banks Engineering (Banks) has applied for exemption from the prohibitions in Vehicle Code Section 27156 for their exhaust crossover pipes for 1982-1987 V8 powered Chevrolet Camaros and Pontiac Firebirds.

Banks has submitted a completed application and all the required information as well as comparative exhaust emissions data which shows that their crossover pipes do not have an adverse effect on the emissions from these vehicles.

The staff recommends that Banks be granted an exemption for their crossover pipes and that Executive Order D-161-5 be issued.

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EVALUATION OF GALE BANKS ENGINEERING'S EXHAUST
CROSSOVER PIPES PARTS NO. 52702-STD AND NO. 52702-HO
FOR 1982-1987 V8 POWERED CHEVROLET CAMAROS AND PONTIAC FIREBIRDS

I. INTRODUCTION

Gale Banks Engineering (Banks) of 546 Duggan Avenue, Azusa, California 91702, has applied for exemption from the prohibitions of Vehicle Code Section 27156 for their exhaust crossover pipes for 1982-1987 V8 powered Chevrolet Camaros and Pontiac Firebirds

Banks has submitted a completed application, all the necessary information and comparative exhaust emissions data.

II. CONCLUSION

Based on the submitted information and the comparative exhaust emissions tests performed on a 1985 Pontiac Firebird powered by a 305 V8 gasoline fuel-injected engine, the staff concludes that the installation of the Banks crossover pipes will not adversely affect exhaust emissions from the vehicles for which the exemption has been requested.

III. RECOMMENDATIONS

The staff recommends that Banks be granted an exemption for their crossover pipes and that Executive Order D-161-5 be issued.

IV. EXHAUST CROSSOVER PIPE DESCRIPTION

The Banks crossover pipes are high quality replacements for the original equipment manufacturer (OEM) crossover pipes found on 1982-1987 V8 powered Camaros and Firebirds. The function of the exhaust crossover pipes (both OEM and Banks) is to route exhaust gases from the two exhaust manifolds of the V8 engine into a common pipe which then feeds the catalytic converter. The OEM crossover pipes are press bent and the connection between the two manifold runners is a T-type joint. This configuration is restrictive and the T-type

joint causes high turbulence. The Banks crossover is designed to eliminate this restriction and turbulence and improve engine performance. The Banks crossover pipes use larger tubing which is mandrel bent to provide smoother bends and the two manifold runners are connected with a Y-type joint to reduce turbulence.

Two slightly different crossover pipes are necessary to cover all 1982-1987 V8 powered Camaros and Firebirds because the carbureted engines have different exhaust manifolds than the fuel-injected engines. Banks part No. 52702-H0 is for fuel-injected engines and 52702-STD is for carbureted engines.

The installation of the banks crossover pipes do not require the disconnection or removal of any OEM emission control components and does not alter the location of the catalytic converter. Installation instructions, included in every kit show how to properly install the Banks crossover pipes (Appendix 1). The Banks kit identification label is shown in Appendix 2.

V. EXHAUST CROSSOVER PIPE EVALUATION

Evaluation of the Banks crossover pipes included analysis of all submitted information to confirm that it meets the requirements for the exemption as well as a comparison of the submitted exhaust emissions data.

The test vehicle was a 1985 Pontiac Firebird powered by a 305 CID V8 fuel-injected engine with an automatic transmission. The effects of the crossover pipe on the carbureted engines should be similar to the effects of the crossover pipe on the fuel-injected engines and therefore only one test vehicle was required for the evaluation.

A 1985 model-year vehicle was accepted as a representative test vehicle for all the vehicles for which the exemption has been requested because the 1986 and 1987 model-year fuel-injected engines were carryovers from the 1985

model-year. The results of back-to-back CVS-75 exhaust emissions tests performed at Automated Custom Systems, Inc., in Orange, CA are shown in the following table.

ACS CVS-75 Exhaust Emission Results

<u>Configuration</u>	<u>Exhaust Emissions (g/mi)</u>			
	<u>HC</u>	<u>CO</u>	<u>NOx</u>	<u>Fuel Economy</u>
Baseline	0.340	1.97	0.675	15.6
Device	0.377	1.96	0.660	16.2

VI. DISCUSSION

The test results show a slight increase in HC emissions, however this increase is within the limits of test variability as determined by the Haagen-Smit laboratory. The Banks crossover pipes appear to be as durable as the OEM crossover pipes they are designed to replace. Based on the exhaust emissions test results the staff concludes that the installation of the Banks crossover pipes on 1982-1987 V8 powered Camaros and Firebirds will not have an adverse effect on the emissions or durability of these vehicles.

Banks has demonstrated compliance with the requirements for an exemption, therefore, the staff recommends that Executive Order D-161-5 be issued.

BANKS POWER PACK F-BODY EXHAUST SYSTEM
FOR '82 THRU '87 V-8 CAMARO AND FIREBIRD

Instructions for Installation

1. Raise vehicle, support on jacks or ramps of suitable capacity for vehicle weight.
2. Disconnect exhaust head pipe assembly at both exhaust manifolds and at catalytic converter. Remove head pipe assembly.
3. Assemble new cross-under pipe and Y-pipe outside of vehicle. Do not install U-clamp. See illustration.
4. Assemble catalytic converter adapter flange to Y-pipe. Do not install U-clamp. See illustration.
5. Lift assembled Y-pipe into place and reattach to engine exhaust manifolds. Rotate cross under pipe in slip joint as required for alignment. Tighten nuts on exhaust manifold studs, but leave just loose enough to move piping for alignment.
6. Reattach catalytic converter to converter adapter flange. Rotate slip joint as required for realignment. Tighten mounting bolts (tighten factory U-clamp on slip joint converters).
7. Check to insure all tubing pieces are properly aligned, and have clearance to floorboards, driveshaft, etc.
8. Tighten nuts on engine exhasut manifold studs.
9. Install and tighten one 2 1/2" U-clamp on Y-pipe assembly.
10. Install and tighten one 3" U-clamp on converter adapter flange fitting.
11. Start engine. Listen for any exhaust leaks and tighten joints as required.

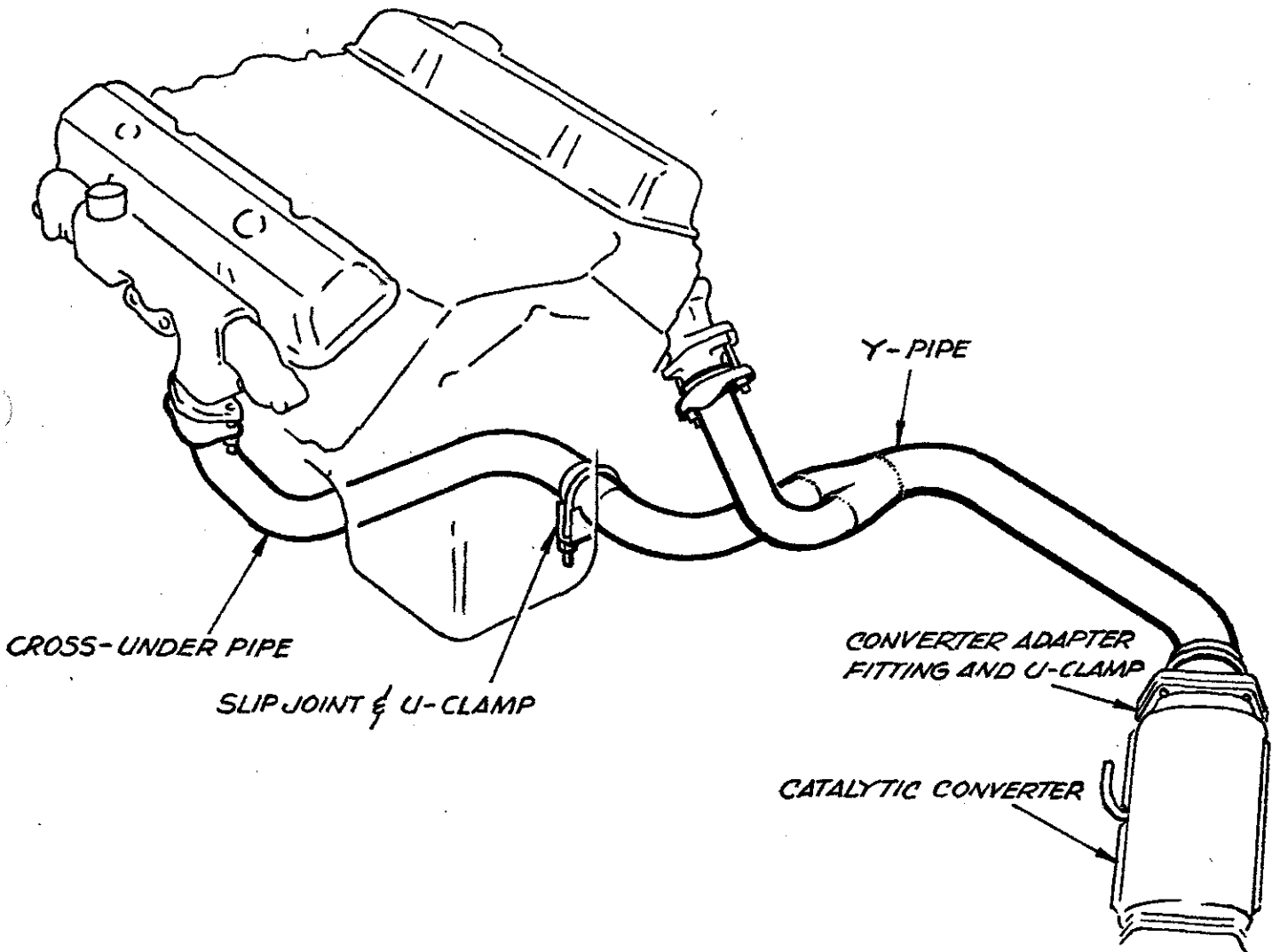
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banks

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CARAMO / FIREBIRD EXHAUST SYSTEM



banks

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banks GALE BANKS ENGINEERING
546 DUGGAN AVE., AZUSA, CA. 91702
EXHAUST SYSTEM FOR CAMARO/FIREBIRD
MODEL Nos. 52702 STD/HO CARB E.O. No. _____